

# THE GEOGRAPHICAL DISTRIBUTION OF BUDDLEIA-FEEDING IN *CUCULLIA VERBASCI* (L.) (NOCTUIDAE) IN THE BRITISH ISLES

By D. F. OWEN\*

Larvae of the mullein moth, *Cucullia verbasci*, feed on the leaves and flowers of mulleins, *Verbascum* spp., and figworts, *Scrophularia* spp., both members of the Scrophulariaceae. The most common food-plant is *Verbascum thapsus* which *C. verbasci* often defoliates, an unusual phenomenon among species dependent on herbaceous plants. Apart from an old record (Barrett 1900) of larvae on *Buddleia globosa*, an ornamental shrub introduced from Chile in 1774, no other food-plants have been reported in Britain until relatively recently when records of the larvae on the related *Buddleia davidii* began to occur. *B. davidii* is a native of China and was introduced to Britain as an attractive ornamental in 1896. In the 1930s the shrub began to colonise waste land, building sites and walls, and is now widespread in many parts of Britain (Owen and Whiteway 1980). Its ecological requirements are in many ways similar to those of

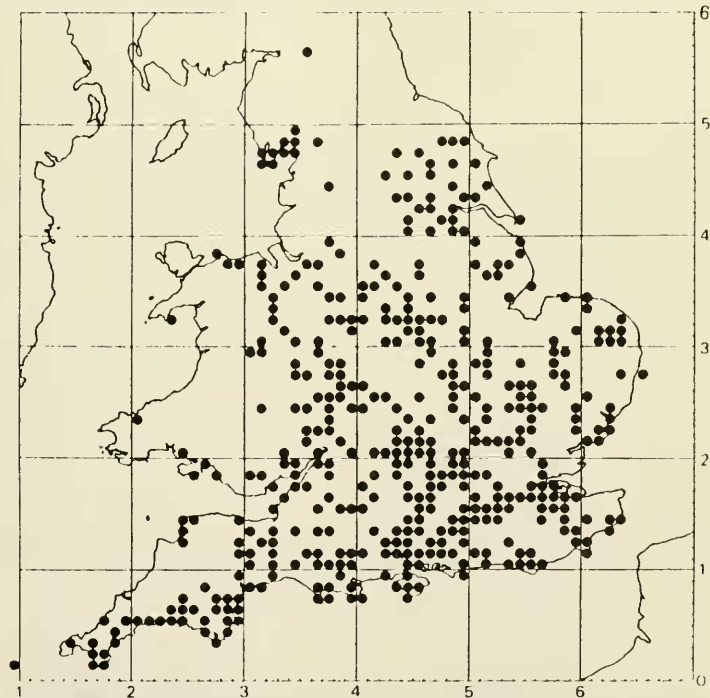


Fig. 1. The distribution of *Cucullia verbasci* in Britain.

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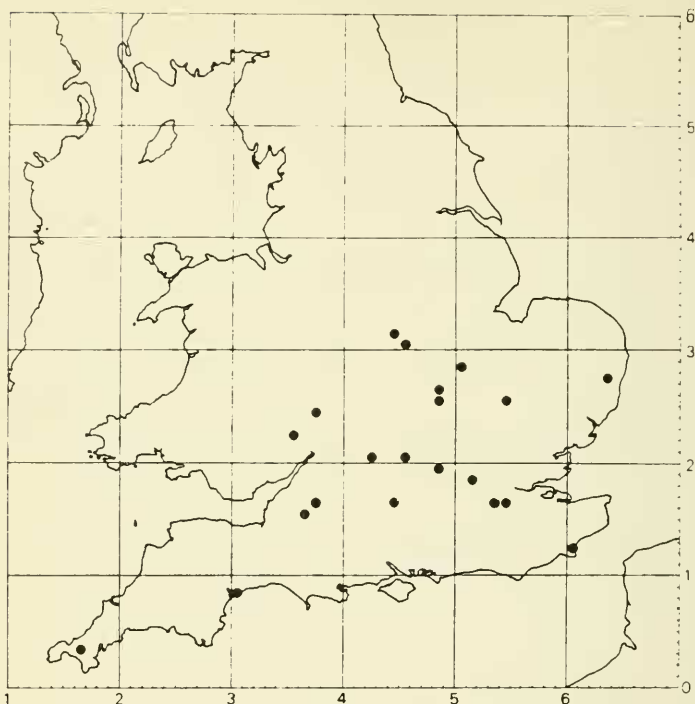


Fig. 2. The distribution of buddleia-feeding in *Cucullia verbasci* in Britain.

*V. thapsus* and the two species are often found growing side by side on waste land. This may be one factor that enables *C. verbasci* to switch to *B. davidii*, but it cannot be the only one.

Fig. 1 shows the distribution of *C. verbasci* in Britain and Fig. 2 shows the present (up to 31 March 1983) distribution of buddleia-feeding in *C. verbasci*. The spots on the maps represent one or more records in 10 x 10 km squares. As shown, records of buddleia-feeding are scattered throughout south-central England, indicating a widespread, albeit patchy, switch to a totally different food-plant. It would have been useful to have reproduced a map showing the distribution of *B. davidii*, but this is impossible because the Biological Records Centre restricts its recording to plants growing "wild" and does not count garden and park ornamentals. It is likely, however, that the shrub occurs in just about every 10 x 10 km square in England, but much less frequently on higher ground in Wales and Scotland.

In Britain (and probably elsewhere) *C. verbasci* is a specialist plant-feeder until recently confined to two related plant genera. Hence the switch to buddleia suggests a chemical similarity between the Scrophulariaceae and the Buddleiaceae, a possibility hinted at by Cronquist (1973). In this respect it is interesting to note that two

species of weevils, *Cionus scrophulariae* and *C. alauda*, and an aphid, *Aphis verbasci*, normally restricted to Scrophulariaceae, have also been reported as feeding on buddleia (Owen and Whiteway 1980, Read 1978). It is likely that *C. verbasci* occurs within the natural range of *B. davidii* in China (Hampson 1906) but I have been unable to establish, one way or the other, if buddleia-feeding also occurs in China.

### Acknowledgements

Fig. 2 is based on records resulting from published appeals (Owen 1977, 1983) and on my own observations. I thank F. B. S. Antram, J. P. Bowdrey, R. G. Crowther, W. Dickson, E. Duffey, G. G. Eastwick-Field, B. Gardiner, J. A. C. Greenwood, R. Heckford, J. E. Knight, C. G. Lipscomb, A. Miller, J. Owen, J. H. Payne, A. J. Showler, P. Sokoloff, R. Whiteway and E. H. Wild for sending records. The Biological Records Centre, Monks Wood, provided the bulk of the information for Fig. 1. Derek Whiteley drew both figures and Karen Gooding helped to assemble the information. Can anyone add more spots to Fig. 2?

### References

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SPARGANIA LUCTUATA (D. & S.) IN NORFOLK. — A colony of the White-banded Carpet was noted among deciduous shrubs and trees bordering a coniferous forest near Great Hockham, Norfolk in June 1983. — E. F. HANCOCK, 'Abbotsford', Belmont, Ulverston, Cumbria.